

Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the [interactive fault map](#).

Garland Prairie faults (Class A) No. 968

Last Review Date: 1997-01-29

Compiled in cooperation with the Arizona Geological Survey

citation for this record: Pearthree, P.A., compiler, 1997, Fault number 968, Garland Prairie faults, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <https://earthquakes.usgs.gov/hazards/qfaults>, accessed 12/14/2020 03:13 PM.

Synopsis	Two short, northwest-trending normal faults form a shallow, symmetric, narrow graben on lower Pleistocene volcanic rocks and Paleozoic bedrock in the southwestern part of the Pliocene-Quaternary San Francisco volcanic field. The margins and floor of the graben are covered primarily by Pliocene-Pleistocene basalt flows, which partially filled the existing trough, and probably are faulted.
Name comments	Faults mapped by Ulrich and others (1984 #2157); they were remapped and named by Pearthree and others (1996 #2153). The geology of this area was mapped by Wolfe and others (1987 #2160), but these faults were not depicted.

County(s) and State(s)	COCONINO COUNTY, ARIZONA
Physiographic province(s)	COLORADO PLATEAUS
Reliability of location	Good Compiled at 1:250,000 scale. <i>Comments:</i> Trace mapped at 1:100,000 scale, transferred to 1:250,000-scale topographic base map.
Geologic setting	One of several fault zones located in the southwestern part of the Pliocene-Quaternary San Francisco volcanic field, on the erosion surface cut on Paleozoic rocks near the Colorado Plateaus margin. The Garland Prairie faults cut Paleozoic bedrock and probably uppermost Pliocene to lower Pleistocene volcanic rocks.
Length (km)	5 km.
Average strike	N49°W
Sense of movement	Normal <i>Comments:</i> Predominantly normal movement is inferred from topographic relations.
Dip Direction	NE; SW
Paleoseismology studies	
Geomorphic expression	Northwest-trending scarps formed on Paleozoic bedrock and Pliocene-Pleistocene basalt define a gentle, fairly narrow, symmetric physiographic trough. The trough bottom is covered by basalt and late Quaternary alluvium. The alluvium is not faulted, and scarps on the trough margins are quite gentle, implying that have been no late Quaternary fault ruptures.
Age of faulted surficial deposits	Paleozoic, latest Pliocene to early Pleistocene(?)
Historic earthquake	
Most recent	undifferentiated Quaternary (<1.6 Ma)

prehistoric deformation	<i>Comments:</i> Uppermost Pliocene to lower Pleistocene basalt flow is probably faulted, but there is no definitive evidence of middle to late Quaternary activity.
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr <i>Comments:</i> Low slip-rate category assigned based on the lack of demonstrable evidence for Quaternary movement.
Date and Compiler(s)	1997 Philip A. Pearthree, Arizona Geological Survey
References	#2153 Pearthree, P.A., Vincent, K.R., Brazier, R., and Hendricks, D.M., 1996, Plio-Quaternary faulting and seismic hazard in the Flagstaff area, northern Arizona: Arizona Geological Survey Bulletin 200, 40 p., 2 pls. #2157 Ulrich, G.E., Billingsley, G.H., Hereford, R., Wolfe, E.W., Nealey, L.D., and Sutton, R.L., 1984, Maps showing geology, structure, and uranium deposits of the Flagstaff 1° by 2° quadrangle, Arizona: U.S. Geological Survey Miscellaneous Investigations Map I-1446, 2 sheets, scale 1:250,000. #2160 Wolfe, E.W., Ulrich, G.E., Holm, R.F., Moore, R.B., and Newhall, C.G., 1987, Geologic map of the central part of the San Francisco volcanic field, north-central Arizona: U.S. Geological Survey Miscellaneous Field Studies Map MF-1959, 86 p. pamphlet, 2 sheets, scale 1:50,000.

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